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Lockheed Analytical Services

BECHTEL HANFORD INC.

ANALYTICAL DATA REPORT

FOR

VOLATILES, SEMIVOLATILES AND PESTICIDES/PCBS

NOV 1996
RECEIVED
EDMC

LOG-IN NUMBER:	L3438
QUOTATION NUMBER:	Q400000-B
DOCUMENT FILE NUMBER:	1203596
SAF NUMBER:	B94-122
WHC DOCUMENT CONTROL NUMBER:	114
SDG NUMBER:	LK24

RECORD COPY

12-16-94

9713505.2509

Lockheed
Environmental Systems & Technologies

Lockheed Analytical Services
975 Kelly Johnson Drive
Las Vegas, Nevada 89119-3705

Phone: (702) 361-0220
Phone: (800) 582-7605
Fax: (702) 361-8146

December 13, 1994

Joan Kessner
Bechtel Hanford, Inc.
P.O. Box 969
345 Hills
Richland, WA 99352

RE:	Log-in No:	L3438
	Quotation No:	Q400000-B
	Document File No:	1203596
	SAF No.:	B94-122
	WHC Document Control No:	114
	SDG No.:	LK24

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 3 December 1994.

The temperature of the cooler upon receipt was 2°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. Samples were received in time to meet the analytical holding time requirements.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

Please note that the electronic data deliverable (EDD) will not be submitted in this data package because it is not a required deliverable for a GC and GCMS Type 2 report.

12-16-94

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Lockheed Analytical Services

Log-in No.: L3438
Quotation No.: Q400000-B
Document File No.: 1203596
SAF No.: B94-122
WHC Document Control No.: 114
SDG No.: LK24

If you have any questions concerning the analysis or the data please call Kathleen Hall at (509) 943-4423.

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manger or a designee, as verified by the following signature."

Sincerely,

James Jordan

for Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

ib 12-16-94

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Lockheed Analytical Services

Log-in No.: L3438
Quotation No.: Q400000-B
Document File No.: 1203596
SAF No.: B94-122
WHC Document Control No.: 114
SDG No.: LK24

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8240 Volatile Organics

Analytical Batch 120694-8240-J1

The associated samples were analyzed within holding time on December 06, 1994. All instrument tunes, initial and continuing calibration were within QC criteria. No contamination was present in the method blank (16537MB). All surrogate recoveries were within QC criteria for all associated samples analyzed. Due to insufficient sample volume, a laboratory control sample (16537LCS) and laboratory control sample duplicate (16537LCSD) pair was extracted in place of a matrix spike (MS) and matrix spike duplicate (MSD) pair. All compound recoveries in the LCS and LCSD were within QC criteria. All relative percent differences (RPDs) between the LCS and LCSD recoveries were within QC criteria. Target compounds were detected in the associated sample analyzed BODFM9 (L3438-3) but tentatively identified compounds (TIC) were not detected.

Analytical Method 8270 Semivolatile Organics

Analytical Batch 120794-8270-K

The associated samples were extracted within holding time on December 06, 1994 and analyzed within holding time on December 07, 1994. All instrument tunes, initial and continuing calibration were within QC criteria. No contamination was present in the method blank (16524MB). All surrogate recoveries were within QC criteria for all associated samples analyzed. Due to insufficient sample volume, a laboratory control sample (16524LCS) and laboratory control sample duplicate (16524LCSD) pair was extracted in place of a matrix spike (MS) and matrix spike duplicate (MSD) pair. All compound recoveries in the LCS and LCSD were within QC criteria. All relative percent differences (RPDs) between the LCS and LCSD recoveries were within QC criteria. Target compounds and tentatively identified compounds (TIC) were detected in the associated sample analyzed BODFM9 (L3438-1).

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Lockheed Analytical Services

Log-in No.: L3438
Quotation No.: Q400000-B
Document File No.: 1203596
SAF No.: B94-122
WHC Document Control No.: 114
SDG No.: LK24

Analytical Method 8080 Pesticides/PCBs

Analytical Batch 120894-8080-E1

The associated samples were extracted within holding time on December 06, 1994 and analyzed within holding time on December 09, 1994. All initial and continuing calibration and retentiom time checks were within QC criteria. No contamination was present in the method blank (16526MB). All surrogate recoveries were within QC criteria for all associated samples analyzed. Due to insufficient sample volume, a laboratory control sample (16526LCS) and laboratory control sample duplicate (16526LCSD) pair was extracted in place of a matrix spike (MS) and matrix spike duplicate (MSD) pair. All compound recoveries in the LCS and LCSD were within QC criteria. All relative percent differences (RPDs) between the LCS and LCSD recoveries were within QC criteria. Target compounds were detected in the associated sample analyzed BODFM9 (L3438-1). Sample BODFM9 (L3438-1) had to be diluted 1:10 to bring target compound concentrations within the calibration range.

Lydia M. Coleman
Prepared By

December 13, 1994
Date

9713505.2513

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Dec 05 1994, 09:59 am

Login Number: L3438
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L3438-1	BODFM9	01-DEC-94	03-DEC-94		09-DEC-94
temp 2					
Location: RFG01-02A					
Soil 4 S 8080	PEST/PCBS	Hold:15-DEC-94			
Soil 4 S 8270	SEMI-VOLATILES	Hold:15-DEC-94			
L3438-2	BODFM9	01-DEC-94	03-DEC-94		09-DEC-94
* temp 2; TO BE USED WITH LAS #L3438-3					
Location: RFG01-02A					
Water 1 S NONE					
L3438-3	BODFM9	01-DEC-94	03-DEC-94		09-DEC-94
temp 2					
Location: RFG01-02A					
Soil 4 S 8240	VOLATILES	Hold:15-DEC-94			
L3438-4	REPORT TYPE	03-DEC-94	03-DEC-94		09-DEC-94
Location:					
Water 1 S EDD - DISK DEL.					
Water 1 S GC2					
Water 1 S GCMS2					

001

* analysis deleted

Signature: Umsell

Revised 12-05-94 Date: 12-05-94

1203

9713505.2514

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Dec 05 1994, 09:31 am

Login Number: L3438
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L3438-1	BODFM9	01-DEC-94	03-DEC-94		09-DEC-94
temp 2					
Location: RFG01-02A					
Soil 4 S 8080	PEST/PCBS	Hold:15-DEC-94			
Soil 4 S 8270	SEMI-VOLATILES	Hold:15-DEC-94			
L3438-2	BODFM9	01-DEC-94	03-DEC-94		09-DEC-94
temp 2					
Location: RFG01-02A					
Water 1 S 8240	VOLATILES	Hold:15-DEC-94			
L3438-3	BODFM9	01-DEC-94	03-DEC-94		09-DEC-94
temp 2					
Location: RFG01-02A					
Soil 4 S 8240	VOLATILES	Hold:15-DEC-94			
L3438-4	REPORT TYPE	03-DEC-94	03-DEC-94		09-DEC-94
Location:					
Water 1 S EDD - DISK DEL.					
Water 1 S GC2					
Water 1 S GCMS2					

002

Signature: NMills

Date: 12 05 94

12C3590

L343

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [X] Priorty [ ] Normal

Collector: Robert C. Smith	Company Contact: Claud Stacey	Telephone No.: 509-372-2527
Project Designation: EAL Sample Project	Sampling Location: BODFM9	SAF No.: B94-122
Ice Chest No.	Field Logbook No.: N/A	Method of Shipment: FEDEX
Shipped To: Lockheed	Offsite Property No.: W95-0-0073-38	Bill of Lading/Air Bill No.: 2404613503
Possible Sample Hazards/Remarks: None		
Special Handling and/or Storage: Samples to be stored at 2 degrees Celsius.		

SAMPLE ANALYSIS			
Preservative	cool		
Type of Container	G	AG	G
No. of Container(s)	1	1	1
Volume	60 gm.	2ML	10gm
	SEE BELOW *	SEE BELOW	SEE BELOW

Sample No.	Matrix*	Date Sampled	Time Sampled			
BODFM9	S	12/01/94	1300	X		
BODFM9	W	12-1-94	1300		X	
BODFM9	S	12-1-94	1300			X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
R CLAYTON SMITH R Clayton Smith ERC	0900 12/2/94	ERC AJ SIMPSON AJ Simpson	12/2/94 0900
ERC AJ SIMPSON AJ Simpson	0930 12/2/94	FT Rue Whitten Bechtel	0930 12-2-94
FT Rue Whitten Bechtel	0930 12-2-94		

SPECIAL INSTRUCTIONS

~~* Please analyze the above sample for GLP VOA by EPA 8240, Semi-VOA by EPA 8260, and PCBs by EPA 8080.~~ BW 12-2-94

1 1 60gm SEMI-VOA AND PCBs 8040 8270
2 1 10gm VOA
3. 1 2mL VOA

Matrix*

S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: 003 | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NO. (To be obtained from PROPERTY MANAGEMENT)
SAIC		W75 0 [illegible] 73-38

PART I - TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field /Analytical Supp	ER Field Sampling

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing [illegible] ☐ Prepaid ☐ Collect

Shipped to Company Lockheed Analytical Services Address 875 Kelly Johnson Drive City Las Vegas, NV 89119 State Zip Code Country	Off-site Custodian On-site Custodian Payroll No.

Qty.	Property No.	Description (include Manufacture Name, Model, Serial No.)	Acquisition Cost
1 49 lbs		Sample #: B0DFM9 Cooler ID: SML-154 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs		Sample #: Cooler ID: Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the off-site use of this property

☒ Required for Project Work. List Project No. EAL SAMPLE PROJECT

☐ Business Trip Bill of lading # 2904613503

☐ Off-site Assignment

☐ Shipment to Subcontractor. List Subcontract No. _____

☐ Other (Please specify) Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date

Location of and Contact for Property (Name/Phone No./Bldg./Area)
P. A. Butcher/(509)376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
12-2-94	ITE2072/ E633A	004

Originated By	Date	Authorized By	Date
BJT WHITTEN	12-2-94	[signature]	12-2-94
Property Representative Signature	**Date**	**Property Management Approval**	**Date**
		[signature]	[illegible]

PART II - TO BE COMPLETED BY SHIPPING

Authorized Shipping Signature	Date

DISTRIBUTION (AFTER FINAL SIGNATURES)

White - Property Management Yellow - Shipping Green - Accounts Payable Pink - Originator Goldenrod - Property Management

*U.S. GPO: 1994-592-170/00029

120359

Sample Login

Login Review Checklist

Lot Number L3438

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For an effective login review, at a minimum, five reports from the login process are required. These are the chain of custody (or equivalent), the login chain of custody report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning a review, ensure that these five components are available. For jobs with single component samples, the sample summary report may be ommiued.

Sample Summary Report
N/A

		Yes	No
1.	Are all sample IDs correct?	Y	—
2.	Are all samples present?	Y	—
3.	Are all matrices correct? (e.g., TCLP analyses should be on a TCLP leachate, field blanks should be water)	Y	—
4.	Are all analyses on the chain of custody/login quotation included?	Y	—
5.	Are analyses logged in for the correct container? (e.g., analyses requiring preservation logged in for a preserved container and vice versa)	Y	—
6.	Are samples logged in according to laboratory batching procedures? (e.g., TCLP regular leaching and associated metals/semivolatile organics should be logged in on the same bottle)	Y	—

Login Chain of Custody Report

1.	Are the Collect, Receive , and Due dates correct for every sample?	Y	—
2.	Have appropriate sample comments been included? (e.g., MS/MSD designation, comments from the client concerning method modifications)	Y	—

Sample Receiving Checklist

1.	Are any discrepancies between the chain of custody and the login noted? (e.g., client IDs different on chains of custody and bottle labels, samples not sent, samples lost from breakage)	—	—	MV

[signature] 12-05-94 [signature] 12-05-94

Primary review signature Date Secondary review signature Date

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 12-03-94 1000am Client Name Westinghouse - Hanford

Project/Client # D94-122 Batch or Case # —

Cooler ID (if noted on outside of cooler) n/A

1. Condition of shipping container? GOOD
2. Custody Seals on cooler intact? Yes [x] No [ ]
3. Custody Seals dated and signed? Yes [x] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [x] No [ ]
5. Vermiculite/packing material is: Wet [ ] Dry [x] _____
6. Each sample is in a plastic bag? Yes [x] No [ ] _____
7. Number of sample containers in cooler: 3
8. Samples have:
   - ____ tape
   - ____ hazard labels
   - X custody seals
   - X appropriate sample labels
9. Samples are:
   - X in good condition
   - ____ leaking
   - ____ broken
   - ____ have air bubbles
   - ____ other
10. Coolant Present? Yes [x] No [ ] Sample Temperature 2°C
11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) n/A

    Request for Analysis #(s) n/A

    Airbill # Fed Ex Carrier 290 461 3503
12. Have any anomalies been identified above? Yes [ ] No [ ] n/A
13. Memos have been initiated for all anomalies identified above? Yes [ ] n/A

Printed Name/Signature PAUL C DIZIS Date/Time 12-03-94 11:00a

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Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Westing House Job No. L3438 Cooler ID: MA

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 2°

temperature of temp. blank upon receipt: —

	Yes	No	* Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen	X		
rad survey completed	X		

Paul C [illegible] 12-03-94 11:00 AM

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace			MA
are samples bi-phasic (if so, indicate sample ID'S):			MA

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		X	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [illegible] 12-05-94

Sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimille to the appropriate CSR (702) 361-8146*

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version 2.0 (11/11/94)

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Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BODFM9-	L3438-1		Soil	8080 PEST/PCBS
	L3438-1		Soil	8270 SEMI-VOLATI
	L3438-2		Water	8240 VOLATILES
	L3438-3		Soil	8240 VOLATILES
REPORT TYPE	L3438-4		Water	EDD - DISK DEL.
	L3438-4		Water	GC2
	L3438-4		Water	GCMS2

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LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
8240 VOLATILES

Client Sample ID:	BODFM9	LAL Sample ID:	L3438-3
Date Collected:	01-DEC-94	Date Received:	03-DEC-94
Date Analyzed:	06-DEC-94	Analytical Dilution:	1
Matrix:	Soil	Analytical Batch ID:	120694-8240-J1
Percent Moisture:	0	Preparation Dilution:	1.00

SURROGATE RECOVERY (%)		
		QC Limits
1,2-Dichloroethane-d4	94	70-121
Toluene-d8	100	81-117
Bromofluorobenzene	98	74-121

CONSTITUENT	CAS NO.	RESULT ug/kg	PRACTICAL QUANTITATION LIMIT ug/kg	DATA QUALIFIER(s)
Chloromethane	74-87-3	<5.0	5.0	
Vinyl Chloride	75-01-4	<5.0	5.0	
Bromomethane	74-83-9	<5.0	5.0	
Chloroethane	75-00-3	<5.0	5.0	
Trichlorofluoromethane	75-69-4	<5.0	5.0	
Acetone	67-64-1	<10.	10.	
1,1-Dichloroethene	75-35-4	<5.0	5.0	
Carbon Disulfide	75-15-0	<5.0	5.0	
Methylene Chloride	75-09-2	99.	5.0	
trans-1,2-Dichloroethene	156-50-5	<5.0	5.0	
Vinyl Acetate	108-05-4	<10.	10.	
1,1-Dichloroethane	75-34-3	<5.0	5.0	
2-Butanone	78-93-3	<10.	10.	
cis-1,2-Dichloroethene	156-59-2	<5.0	5.0	
Chloroform	67-66-3	<5.0	5.0	
1,1,1-Trichloroethane	71-55-6	62.	5.0	
Carbon tetrachloride	56-23-5	32.	5.0	
1,2-Dichloroethane	107-06-2	50.	5.0	
Benzene	71-43-2	24.	5.0	
Trichloroethene	79-01-6	43.	5.0	
1,2-Dichloropropane	78-87-5	44.	5.0	
Bromodichloromethane	75-27-4	19.	5.0	
4-Methyl-2-Pentanone	108-10-1	78.	10.	
cis-1,3-Dichloropropene	10061-01-5	<5.0	5.0	
Toluene	108-88-3	59.	5.0	
trans-1,3-Dichloropropene	10061-02-6	<5.0	5.0	
1,1,2-Trichloroethane	79-00-5	<5.0	5.0	
Tetrachloroethene	127-18-4	78.	5.0	
Dibromochloromethane	124-48-1	<5.0	5.0	
Chlorobenzene	108-90-7	38.	5.0	
Ethylbenzene	100-41-4	36.	5.0	
m,p-Xylene	1330-20-7	100	5.0	
o-Xylene	95-47-6	31.	5.0	
Styrene	100-42-5	<5.0	5.0	
Bromoform	75-25-2	64.	5.0	
1,1,2,2-Tetrachloroethane	79-34-5	<5.0	5.0	
1,3-Dichlorobenzene	541-73-1	90.	5.0	
1,4-Dichlorobenzene	106-46-7	54.	5.0	
1,2-Dichlorobenzene	95-50-1	40.	5.0	

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VOLATILE ORGANIC ANALYSIS RESULTS
FOR ANALYSES USING METHOD 8240
TENTATIVELY IDENTIFIED COMPOUNDS

Client Sample ID: BODFM9	LAL Sample ID: L3438-3
Date Received: 03-DEC-94	Date Analyzed: 06-DEC-94
Matrix: SOIL	Dilution Factor: 1
Analytical Batch: 120694-8240-J1	QC Batch ID: 120694-8240

Tentatively Identified Compound	Estimated Concentration (µg/Kg)	Retention Time (minutes	Data Qualifier(s)
None Detected			

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LOCKHEED ANALYTICAL SERVICES

SEMI-VOLATILE ORGANICS BY GC/MS

8270 SEMI-VOLATILES

Client Sample ID:	BODFM9	LAL Sample ID:	L3438-1
Date Collected:	01-DEC-94	Date Received:	03-DEC-94
Date Analyzed:	07-DEC-94	Date Extracted:	06-DEC-94
Matrix:	Soil	Analytical Batch ID:	120794-8270-K
QC Group:	8270 SEMI-VOLATILES_16524	Analytical Dilution:	1
Percent Moisture:	0	Preparation Dilution:	1.03

SURROGATE RECOVERY (%)		
		QC Limits
2-Fluorophenol	42	25-121
Phenol-d5	48	24-113
Nitrobenzene-d5	43	23-120
2-Fluorobiphenyl	59	30-115
2,4,6-Tribromophenol	69	19-122
Terphenyl-d14	85	18-137

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
Phenol	108-95-2	3300	680	
bis(2-Chloroethyl)ether	111-44-4	<680	680	
2-Chlorophenol	95-57-8	<680	680	
1,3-Dichlorobenzene	541-73-1	480	680	J
1,4-Dichlorobenzene	106-46-7	<680	680	
Benzyl alcohol	100-51-6	<1300	1300	
1,2-Dichlorobenzene	95-50-1	570	680	J
2-Methylphenol	95-48-7	990	680	
bis(2-chloroisopropyl)ether	108-60-1	<680	680	
4-Methylphenol	106-44-5	1800	680	
N-Nitroso-di-n-propylamine	621-64-7	<680	680	
Hexachloroethane	67-72-1	<680	680	
Nitrobenzene	98-95-3	<680	680	
Isophorone	78-59-1	<680	680	
2-Nitrophenol	88-75-5	<680	680	
2,4-Dimethylphenol	105-67-9	<680	680	
Benzoic acid	65-85-0	<3400	3400	
bis(2-Chloroethoxy)methane	111-91-1	<680	680	
2,4-Dichlorophenol	120-83-2	<680	680	
1,2,4-Trichlorobenzene	120-82-1	1400	680	
Naphthalene	91-20-3	2700	680	
4-Chloroaniline	106-47-8	<1300	1300	
Hexachlorobutadiene	87-68-3	<680	680	
4-Chloro-3-methylphenol	87-68-3	<1300	1300	
2-Methylnaphthalene	91-57-6	<680	680	
Hexachlorocyclopentadiene	77-47-4	<680	680	
2,4,6-Trichlorophenol	88-06-2	3600	680	
2,4,5-Trichlorophenol	95-95-4	<680	680	
2-Chloronaphthalene	91-58-7	<680	680	
2-Nitroaniline	88-74-4	<3400	3400	
Dimethylphthalate	131-11-3	<680	680	
Acenaphthylene	208-96-8	<680	680	
2,6-Dinitrotoluene	606-20-2	<680	680	
3-Nitroaniline	99-09-2	<3400	3400	
Acenaphthene	83-32-9	<680	680	
2,4-Dinitrophenol	51-28-5	<3400	3400	
4-Nitrophenol	100-02-7	<3400	3400	

020

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LOCKHEED ANALYTICAL SERVICES

SEMI-VOLATILE ORGANICS BY GC/MS

8270 SEMI-VOLATILES

Client Sample ID:	BODFM9	LAL Sample ID:	L3438-1
Date Collected:	01-DEC-94	Date Received:	03-DEC-94
Date Analyzed:	07-DEC-94	Date Extracted:	06-DEC-94
Matrix:	Soil	Analytical Batch ID:	120794-8270-K
QC Group:	8270 SEMI-VOLATILES_16524	Analytical Dilution:	1
Percent Moisture:	0	Preparation Dilution:	1.03

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
Dibenzofuran	132-64-9	4500	680	
2,4-Dinitrotoluene	121-14-2	1900	680	
Diethylphthalate	84-66-2	<680	680	
4-Chlorophenyl-phenylether	7005-72-3	<680	680	
Fluorene	86-73-7	<680	680	
4-Nitroaniline	100-01-6	<3400	3400	
4,6-Dinitro-2-methylphenol	534-52-1	<3400	3400	
N-Nitrosodiphenylamine (1)	86-30-6	<680	680	
4-Bromophenyl-phenylether	101-55-3	8500	680	
Hexachlorobenzene	118-74-1	<680	680	
Pentachlorophenol	87-86-5	2300	3400	J
Phenanthrene	85-01-8	<680	680	
Anthracene	120-12-7	2900	680	
Carbazole	86-74-8	<680	680	
Di-n-butylphthalate	84-74-2	<680	680	
Fluoranthene	206-44-0	1400	680	
Pyrene	129-00-0	1100	680	
Butylbenzylphthalate	85-68-7	<680	680	
3,3'-Dichlorobenzidine	91-94-1	<1300	1300	
Benzo(a)anthracene	56-55-3	<680	680	
Chrysene	218-01-9	3300	680	
bis(2-Ethylhexyl)phthalate	117-81-7	6200	680	
Di-n-octylphthalate	117-84-0	10000	680	
Benzo(b)fluoranthene	205-99-2	3500	680	
Benzo(k)fluoranthene	207-08-9	<680	680	
Benzo(a)pyrene	50-32-8	<680	680	
Indeno(1,2,3-cd)pyrene	193-39-5	<680	680	
Dibenz(a,h)anthracene	53-70-3	2100	680	
Benzo(g,h,i)perylene	191-24-2	<680	680	

021

SEMIVOLATILE ORGANIC ANALYSIS RESULTS
FOR ANALYSES USING METHOD 8270
TENTATIVELY IDENTIFIED COMPOUNDS

Client Sample ID: BODFM9	LAL Sample ID: L3438-1
Date Received: 03-DEC-94	Date Analyzed: 07-DEC-94
Matrix: SOIL	Dilution Factor: 1
Analytical Batch: 120794-8270-K	QC Batch ID: 8270 SEMIVOLATILES_16524

Tentatively Identified Compound	Estimated Concentration (µg/Kg)	Retention Time (minutes)	Data Qualifier(s)
9,10-Anthracenedione	710	12.84	J
Unknown Ester	1300	12.63	J

022

LOCKHEED ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES/PCBS BY GC/ECD
8080 PEST/PCBS

Client Sample ID:	BODFM9	LAL Sample ID:	L3438-1
Date Collected:	01-DEC-94	Date Received:	03-DEC-94
Date Analyzed:	09-DEC-94	Date Extracted:	06-DEC-94
Matrix:	Soil	Analytical Batch ID:	120894-8080-E-1
QC Group:	8080 PEST/PCBS_16526	Analytical Dilution:	1
Percent Moisture:	0	Preparation Dilution:	1.0

SURROGATE RECOVERY (%)		
		QC Limits
TCMX	74	60-150
DCB	88	60-150

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
A-BHC	319-84-6	250	1.7	D1:10
G-BHC	58-89-9	0.00	1.7	
Heptachlor	76-44-8	130	1.7	D1:10
Endosulfan I	959-98-8	0.00	1.7	
Dieldrin	60-57-1	230	3.3	D1:10
Endrin	72-20-8	300	3.3	D1:10
4,4'-DDD	72-54-8	250	3.3	D1:10
4,4'-DDT	50-29-3	220	3.3	D1:10
Methoxychlor	72-43-5	0.00	17.	
Aldrin	309-00-2	370	1.7	D1:10
B-BHC	319-85-7	170	1.7	D1:10
D-BHC	319-86-8	0.00	1.7	
Heptachlor Epoxide	1024-57-3	0.00	1.7	
G-Chlordane	5103-74-2	120	1.7	D1:10
A-Chlordane	5103-71-9	0.00	1.7	
Endosulfan II	33213-65-9	0.00	3.3	
4,4'-DDE	72-55-9	120	3.3	D1:10
Endrin Aldehyde	7421-36-3	0.00	3.3	
Endosulfan Sulfate	1031-07-8	0.00	3.3	
PCB-1016	12674-11-2	0.00	13.	
PCB-1221	11104-28-2	0.00	13.	
PCB-1232	11141-16-5	0.00	13.	
PCB-1242	53469-21-9	0.00	13.	
PCB-1248	12672-29-6	0.00	13.	
PCB-1254	11097-69-1	0.00	13.	
PCB-1260	11096-82-5	0.00	13.	
Toxaphene	8001-35-2	0.00	170	
Chlordane (Technical)	57-74-9	0.00	40.	